In the Specification

No new subject matter is being introduced in the specification. Elements previously disclosed in the drawings are being described in the specification. Such nature of such elements would have been clear to one of ordinary skill in the art.

Paragraph [0013] is replaced with the following:

[0013] More specifically, a process for forming aromatic compounds from a hydrocarbon stream is provided. The process includes supplying and reacting a hydrocarbon feed stream in a first reactor to produce a first reactor effluent stream. The first effluent stream is then cooled and at least partially condensed in a first cooler to produce a first vapor stream and a first liquid stream. The first vapor stream is cooled and at least partially condensed in a second cooler to produce a second vapor stream and a second liquid stream. The first and second liquid streams are combined and cooled before being sent directly to a reformate pool, without being subjected to any additional reactors or equilibrium separators that would modify the composition of the stream before reaching the reformate pool. The first reactor can be a stand-alone reactor or can be part of a series of reformer reactors. The second vapor stream is then heated prior to sending the second vapor stream to a second reactor. Once the second vapor stream is sent to the second reactor, the remaining process steps of the reforming process can take place as in a typical reformer process as understood by those skilled in the art.

Paragraph [0014] is replaced with the following:

[0014] Another process for forming aromatic compounds from a hydrocarbon stream is also advantageously provided. In this embodiment, a hydrocarbon feed stream is supplied to a first

reactor where it reacts to produce a first reactor effluent stream. The first reactor effluent stream is cooled and at least partially condensed in a first cooler to produce a first vapor stream and a first liquid stream. The first vapor stream is then cooled and at least partially condensed in a second cooler to produce a second vapor stream and a second liquid stream. The first and second liquid streams are then combined and cooled prior to being sent directly to a reformate pool, without being subjected to any additional reactors or equilibrium separators that would modify the composition of the stream before reaching the reformate pool. The second vapor stream is heated and then split into a first portion and a second portion. The first portion of the second vapor stream is sent to the second reactor and the second portion of the second vapor stream is sent to a third reactor. The first portion of the second vapor stream in the second reactor reacts to produce a second reactor effluent stream. The second reactor effluent stream is then combined with the first reactor effluent stream prior to cooling and at least partially condensing the first reactor effluent stream in the first cooler. Since the streams are combined, the second reactor effluent stream is also cooled and at least partially condensed along with the first reactor effluent stream. As with all process embodiments of the present invention, the remaining steps of the reforming process occur as understood by those skilled in the art.

Paragraph [0024] is replaced with the following:

[0024] The present invention advantageously includes a process for forming aromatic compounds from a hydrocarbon feed stream 34, as illustrated in FIG. 1. The process preferably includes supplying and reacting hydrocarbon feed stream 34 in a first reactor 12 to produce a first reactor effluent stream 52. Hydrocarbon feed stream 34 preferably includes a significant amount of hydrocarbons containing a range of five to ten carbon atoms and is preferably

supplied at a temperature in the range of about 500°F to about 1200 °F and a pressure in the range of about 15 psig to about 100psig. Another preferred embodiment includes supplying the hydrocarbon feed stream at a temperature in the range of about 800 °F to about 1200 °F and a pressure in the range of about 15 psig to about 250 psig. More preferably, the boiling range of the hydrocarbon feed stream includes a range falling substantially between 80 °F to 400 °F. It is understood by those in the art that initial boiling points and end points can vary on otherwise similar hydrocarbon feed streams. First reactor effluent stream 52 is then cooled, preferably to a temperature in the range of about 250°F to about 400°F, and at least partially condensed in a first cooler 30 to produce a cooled effluent stream 54 which is then separated in a first separator 24 to produce a first vapor stream 56 and a first liquid stream 46. Cooling first reactor effluent stream 52 allows part of the high boiling aromatic compounds in first reactor effluent stream 52 to condense resulting in first liquid stream 46 containing high boiling aromatic compounds. First vapor stream 56 is then preferably cooled and at least partially condensed in a second cooler 28 to produce a cooled first vapor stream 58 which is then separated in a second separator 26 to produce a second vapor stream 60 and a second liquid stream 48. Second liquid stream 48 includes the lower boiling aromatic compounds. First vapor stream 56 is preferably cooled to a temperature in a range of about 220 °F to about 360 °F. More preferably, first vapor stream 56 is cooled to a temperature in the range of 240 °F to about 360 °F . First and second liquid streams 46, 48, which contains high and low boiling liquid streams, are combined and cooled in third cooler 32 before being sent directly to a reformate pool for further processing as desired. Second vapor stream 60 is then heated, preferably to a temperature in the range of about 800°F to about 1200°F, prior to sending second vapor stream 60 to a second reactor 14.

Paragraph [0032] is replaced with the following:

[0032] As another embodiment of the present invention, a process for forming aromatic compounds from a hydrocarbon stream is advantageously provided as illustrated in FIG. 3. In this embodiment, a hydrocarbon feed stream 34 is supplied and reacted in a first reactor 12 to produce a first reactor effluent stream 52, which is then cooled and at least partially condensed in a first cooler 30 to produce a cooled effluent stream 54' which is then separated in a first separator 24'. A first vapor stream 56 and a first liquid stream 46' are produced as a result of separating the cooled effluent stream 54'. First vapor stream 56 is cooled and at least partially condensed in a second cooler 28 to produce a cooled first vapor stream 58 which is then separated in a second separator 26 to produce a second vapor stream 60 and a second liquid stream 48. The first and second liquid streams 46', 48 are then combined and cooled in a third cooler 32' prior to being sent directly to a reformate pool for further processing. Second vapor stream 60 is heated and then split with a first portion of second vapor stream 38 being sent to second reactor 14 and a second portion of second vapor stream 43 being sent to a third reactor 16. First portion of second vapor stream 38 is reacted in the second reactor to produce a second reactor effluent stream 42. Second reactor effluent stream 42 is preferably combined with first reactor effluent stream 52 prior to cooling and at least partially condensing first reactor effluent stream 52 in first cooler 30'. Second reactor effluent stream 42 is cooled and at least partially condensed along with first reactor effluent stream 52.